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AUTHOR Hull, Glynda
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ABSTRACT

Recent cognitive and historical research as well as the perspectives of workers can challenge the popular myths of literacy and work. It is believed that workers do not possess the necessary literacy skills for current and future jobs. Forecasters specify which groups will dominate the future work force--women, minorities, and immigrants. Since these groups are believed to have the poorest skills, workplace literacy problems will worsen. There is talk of a deficit in "basic skills." The traditional idea of basics--reading, writing, and computation--makes up just one skill group of seven that employers believe are important. Given growing illiteracy, changing demographics, increasing skill requirements, and economic losses, there is pressure on businesses to support literacy training. Much workplace literacy discourse centers on functional context training--basing literacy instructional materials on texts used on the job. A more critical reading of current views rejects a simplistic assignment of blame to workers' lack of literacy skills. Reassessment of the effects of literacy and illiteracy, workers' potential, the nature of literacy, and the literacy requirements of work should be infused with the workers' perspective and alternative views. The literacy practices emerging from these "other voices" can help amend, qualify, and improve workplace literacy programs. (101 references) (NLA)

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HEARING OTHER VOICES: A CRITICAL ASSESSMENT OF POPULAR VIEWS ON LITERACY AND WORK

Glynda Hull

University of California at Berkeley

National Center for Research in Vocational Education
University of California at Berkeley
1995 University Avenue, Suite 375
Berkeley, CA 94704

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INTRODUCTION

> Interviewer: What about reading and writing? People are always saying that you need reading and writing for whatever you do. Do you need reading and writing skills in banking?
>
> Jackie: I don't think so, 'cause, say, if you don't know how to spell somebody's name, when they first come up to you, they have to give you their California ID. So you could look on there and put it in the computer like that . . . push it in on those buttons.
>
> Alma: But you still gonna have to look at it and read and write. . . . You've got to read those numbers when you cash their money; that's reading and writing. . . . If you can't read and write, you're not going to get hired no way.
>
> Jackie: That's true.

Jackie and Alma, students in a vocational program on banking and finance, disagree about the nature and extent of the reading and writing actually involved in being a bank teller. But they do not doubt, even were such skills unimportant in carrying out the job itself, that literacy (or some credential attesting to it) would be a requirement for getting hired in the first place. From what I can tell by examining a popular literature that is noteworthy for its doomsday tone, Jackie and Alma are right: There is consensus among employers, government officials, and literacy providers that American workers to a disturbing extent are "illiterate"; that higher levels of literacy are increasingly needed for many types of work; and that literacy tests, "audits," and instruction are, therefore, necessary phenomena in the workplace.

I find most current characterizations of workplace (il)literacy troublesome and harmful, and in this paper I hope to show why. To begin, I will illustrate some widely held, fundamental assumptions about literacy, work, and workers—the debatable though largely uncontested beliefs which turn up again and again in policy statements, program descriptions, and popular articles. Most troubling to me is the now commonplace assertion, presented as a statement of fact, that because they apparently lack literacy skills American workers can be held accountable for our country's lagging economy and the failure of its businesses to compete at home and internationally. I want to give space to this dominant rhetoric—the calls to arms by leaders in business, industry, and government to educate American workers before it is too late—for efforts proceed apace to design, implement, and evaluate workplace literacy programs largely on the basis of these notions.

The rest of the paper is spent complicating and challenging these views. Drawing on recent sociocognitive and historical research on literacy and work, I suggest that many current characterizations of literacy, literacy at work, and workers as illiterate—as deficient—are inaccurate, incomplete, and misleading. I argue that we have not paid enough attention, as we measure reading rates, design curricula, and construct lists of essential skills, to how people experience instructional programs and to how they accomplish work. Nor have we often or critically examined how literacy can play a role in promoting economic productivity or in facilitating personal empowerment in the context of particular work situations and training programs for work. Nor is it common, in studies of work or reading and writing at work, to acknowledge the perspectives of workers—to discover the incentives and disincentives they perceive and experience for acquiring and exercising literate skills.

Alternate points of view and critical reassessments are essential if we are ever to create frameworks for understanding literacy in relation to work; if we are ever to design literacy programs that have a prayer of speaking to the needs and aspirations of workers as well as employers; and most importantly, if we are ever to create structures for participation in education and work that are equitable and democratic. The main point of this paper is that we have got to let some different voices be heard, voices like those of Alma and Jackie. We have got to see how different stories and other voices can amend, qualify, and fundamentally challenge the popular, dominant myths of literacy and work.

CURRENT VIEWS ON WORKPLACE LITERACY

In the following sections I present some widespread, popular conceptions of literacy and its relationships to work. To illustrate what I will call the "popular discourse" of workplace literacy—the common values and viewpoints reflected in currently dominant ways of talking and writing about the issue—I quote directly from policy documents, newspapers, magazines, and interviews.[1] In this way I hope to capture the voices and suggest something of the ideologies that dominate current debates about education and

[1]In addition to the articles and interviews mentioned in this paper, other recent examples of the popular discourse of workplace literacy can be found in *Basic Skills in the U.S. Work Force* (1982); Bernstein (1988); Cole (1977); Holmes and Green (1988); *Investing in People: A Strategy to Address America's Workforce Crisis* (1989); *Job-Related Basic Skills* (1987); Johnston and Packer (1987); Lee (1984);

work. I view these voices and ideologies as a specific instance of what Giroux and McLaren (1989) have described more generally as "the conservative discourse of schooling" (p. xiv), wherein public schools are defined as "agents of social discipline and economic regulation" (p. xv), being valued only insofar as they turn out workers with the skills, knowledge, habits, and attitudes thought essential in terms of today's economy. But rather than borrow Giroux and McLaren's phrasing (or the related language of other critical theorists) and refer to a "conservative" discourse rather than a "popular" one, I intend through this choice of terms to suggest how persuasive and omnipresent and, well, popular these ways of thinking and talking about workers and literacy have become. Not only do died-in-the-wool conservatives or right-wingers adhere to this discourse, but concerned teachers and committed literacy specialists and well-meaning business people and eager students and interested academics and progressive politicians and worried parents and a host of others as well—many people, I want to suggest, who don't necessarily think of themselves as conservers of the status quo.

Workers Lack Literacy

The most pervasive and unquestioned belief about literacy in relation to work is simply that workers do not possess the important literacy skills needed in current and future jobs. Here are examples:

> "Millions of Americans are locked out of good jobs, community participation and the democratic process because they lack adequate reading and writing skills," said Dale Johnson, spokesman for the Working Group on Adult Literacy. "Only leadership from the Presidential level can assure that the literacy needs of all Americans will be met." (Fiske, 1988, p. 12)

> Anyone who has hired new employees or tried to retrain veteran ones is painfully aware of the problem. As much as a quarter of the American labor force—anywhere from 20 million to 27 million adults—lacks the basic reading, writing and math skills necessary to perform in today's increasingly complex job market. One out of every 4 teenagers drops out of high school, and of those who graduate, 1 out of every 4 has the equivalent of an eighth-grade education. How will they write, or even read, complicated production memos for robotized assembly lines? How will they be able to fill backlogged service orders? (Gorman, 1988, p. 56)

Literacy in the Workplace: The Executive Perspective (1989); Oinonen (1984); Rush, Moe, and Storlie (1986); *The School-To-Work Connection* (1990); Stone (1991); and *Workplace Literacy* (1990, October).

> The Department of Education estimates that there are about 27,000,000 adult Americans who can't really read. Almost all of them can sign their names and maybe spell out a headline. Most aren't totally illiterate the way we used to define illiteracy. But they can't read the label on a medicine bottle. Or fill out a job application. Or write a report. Or read the instructions on the operation of a piece of equipment. Or the safety directions in a factory. Or a memo from the boss. Maybe they even have trouble reading addresses in order to work as a messenger or deliveryman. Certainly they can't work in an office. (Lacy, 1985, p. 10)

Such accounts are exceedingly common: The shocking illustrations of seemingly basic, taken-for-granted skills which current workers and recent graduates lack; the hard evidence that large numbers seem to provide of how many people these illustrations apply to; and the frightening implication that, given the severity of the deficits, it is almost too late to solve this enormous problem. Notice the constant emphasis on deficits—what people are unable to do, what they lack, how they fail—and the causal relationship assumed between those deficits and people's performance at work.

Articles reporting worker illiteracy often specify as well which groups among the American population will dominate in future work—that is, women, minorities, and immigrants—and then make the point that, since these groups are likely to have the poorest skills, literacy-related problems in the workplace will likely worsen:

> A growing share of our new workers will come from groups where human resource investments have been historically deficient—minorities, women, and immigrants. Employers will increasingly have to reach into the ranks of the less advantaged to obtain their entry-level work force, frequently those with deficient basic skills (Former Secretary of Labor Ann McLaughlin quoted in *The Bottom Line*, 1988, p. ii)

> The years of picky hiring are over. Vicious competition for all sorts of workers—entry-level, skilled, seasoned—has begun. Employers must look to the nonmale, the nonwhite, the nonyoung. There may be a push for non-citizens as well: Over the next 10 years . . . only 15% of work force entrants will be native-born white males. (Ehrlich & Garland, 1988, pp. 107-108)

> More and more, American employers will no longer enjoy the luxury of selecting from a field of workers with strong basic skills. The demand for labor will create opportunities for those who are less skilled; the disadvantaged will move up the labor queue and be hired in spite of obvious skill deficiencies. (Carnevale, Gainer, & Meltzer, 1988, p. 2)

American employers, such excerpts suggest, feel put upon and without option; they have no choice now but to hire undesirables like the "nonmale, the nonwhite, the nonyoung"—despite their fears that such people are woefully unprepared.

Literacy Means "Basic Skills" and More

In the popular discourse there is talk of a deficit in "basic skills." Although what is meant by a basic skill is not always explained, the examples of such skills that are often given—being able to read the address on a letter, fill out a job application, decipher supermarket labels—suggest literate abilities that are "basic" in the sense of being simple and fundamental, involving the decoding or encoding of brief texts within a structured task or carrying out elementary calculations such as addition and subtraction. But it is also common to hear claims that the skills gap extends well beyond basic skills. According to this argument, the problem is not basic skills traditionally and narrowly defined, but basic skills amplified, expanded to include those more complex competencies required for an information age and in reorganized workplaces. The alarm bell is rung this way:

> Qualifications for today's middle and low-wage jobs are rising even more rapidly than in the past. In 1965, a car mechanic needed to understand 5,000 pages of service manuals to fix any automobile on the road; today, he must be able to decipher 465,000 pages of technical text, the equivalent of 250 big-city telephone books. (Whitman, Shapiro, Taylor, Saltzman, & Auster, 1989, p. 46)

> Research indicates that the U.S. workplace is becoming more complex—that it is demanding more and more basic skills of American workers—as new technologies and management styles are introduced. Workers are expected to do a lot more than they used to in terms of record-keeping, recording information, pulling information out of different sources; solving problems; working collaboratively with other workers; and so forth. Even now a lot of companies are finding it difficult to find qualified workers to handle those new jobs. That will probably become more of a problem in the next ten or fifteen years. (Jurmo, 1989, p. 18)

> Reading, writing and arithmetic . . . are just the beginning. Today's jobs also require greater judgment on the part of workers. Clerks at Hartford's Travelers insurance company no longer just type endless claim forms and pass them along for approval by someone else. Instead they are expected to settle a growing number of minor claims on the spot with a few deft punches of the computer keyboard. Now, says Bob Feen, director of training at Travelers: "Entry-level clerks have to be capable of using information and making decisions." (Gorman, 1988, p. 57)

Here is a much-cited list compiled by the U.S. Department of Labor and the American Society for Training and Development of the basic skill groups that employers currently believe are important:

- Knowing how to learn
- Reading, writing, and computation
- Listening and oral communication
- Creative thinking and problem-solving
- Self-esteem, goal setting/motivation, and personal/career development
- Interpersonal skills, negotiation, and teamwork
- Organizational effectiveness and leadership (Carnevale et al., 1988, p. 9)

Notice that the traditional idea of basics—reading, writing, and computation—make up just one skill group of seven. The burden now placed on our "nonmale," "nonwhite," "nonyoung" workforce is very high indeed: Not only must workers master the traditional basic skills of reading, writing, and arithmetic, they are now also expected to demonstrate facility with supposedly newer competencies like problem-solving and teamwork, competencies which often require "nuanced judgement and interpretation" (Lauren Resnick as summarized in Berryman, 1989, p. 28).

Illiteracy Costs Businesses and Taxpayers

In the popular discourse, the bottom line for concern about illiteracy, whether a deficit in basic skills or a lack of nuanced judgement, is economic. Consider the following claims about the cost of illiteracy:

> Millions of employees suffering from varying degrees of illiteracy are costing their companies daily through low productivity, workplace accidents and absenteeism, poor product quality, and lost management and supervisory time. (*Functional Illiteracy Hurts Business*, 1988)

> In a major manufacturing company, one employee who didn't know how to read a ruler mismeasured yards of steel sheet wasting almost $700 worth of material in one morning. This same company had just invested heavily in equipment to regulate inventories and production schedules. Unfortunately, the workers were unable to enter numbers accurately, which literally destroyed inventory records and resulted in production orders for the wrong products. Correcting the errors cost the company millions of dollars and wiped out any savings projected as a result of the new automation. (*The Bottom Line*, 1988, p. 12)

> Already the skills deficit has cost businesses and taxpayers $20 billion in lost wages, profits and productivity. For the first time in American history, employers face a proficiency gap in the work force so great that it threatens the well-being of hundreds of U.S. companies. (Gorman, 1988, p. 56)

Again and again, we hear worker illiteracy being linked directly to big economic losses: Due to poor reading and writing skills, workers make costly mistakes, they don't work efficiently, they produce inferior products, and apparently, they stay at home a lot. A related economic argument is that since many people cannot qualify for jobs, North America is also losing the buying power of a big segment of the population (see *Functional Illiteracy Hurts Business*, 1988).

Workers Need "Functional Context Training"

Given growing illiteracy, changing demographics, increasing skills requirements, and economic losses, there is much pressure on businesses to support and provide literacy training:[2]

> American employers have seen competency in workplace basics as a prerequisite for hiring and viewed the accumulation of such skills as solely the responsibility of the individual. The employer's interest focused on measuring the skills of prospective employees and screening out those who were most suitable for hiring. But times are changing. Employers are beginning to see that they must assist their current and future workers to achieve competency in workplace basics if they are to be competitive. (Carnevale et al., 1988, p. 1)

> Q: (*USA Today*): What can management do?
> A: (Thomas Sticht, literacy specialist): Business and industry are going to have to pick up a greater portion of education. It would probably cost between $5 billion and $10 billion over the next few years to establish literacy programs and retool current ones. But the returns of that are going to be tenfold. (Morelli, 1987, p. 4B)

> Right now at Motorola, we're running three or four different approaches, and trying to see which one will meet our employees' needs the best. In a

[2]There is, in fact, a newsletter, *Business Council for Effective Literacy: A Newsletter for the Business and Literacy Community*, which is published especially for the business community to keep employers apprised of developments in adult literacy and to encourage them to provide support in the field (write to Business Council for Effective Literacy, 1221 Avenue of the Americas, 35th Floor, New York, NY 10020 or call 212-512-2415 for more information). However, the percentage of companies currently investing in training and retraining their workers is apparently quite low. See *America's Choice: High Skills or Low Wages!* (1990).

> couple of the programs, we actually teach them what they need to know to do their jobs here, so even though their reading levels might be at the sixth grade, they're really being taught to read and comprehend documentation they could use on the job. In other places, we teach them what you would an adult at the fifth-grade level: how to read things in a supermarket, how to read a newspaper. (Wiggenborn, 1989, pp. 21-22)

In the wake of corporate concern about worker illiteracy, there has sprung up a whole new market for workbook instruction (and its close relative, computer-based instruction) and "how-to-set-up-a-program" guides—for example, *Basic Awareness Skills for Exploration, Assessment, and Remediation* (SchoolFutures, Inc., brochure); *Math on the Job* (booklet from the Workplace Literacy System); *The Bottom Line: Basic Skills in the Workplace* (1988); *Workplace Basics: The Skills Employers Want* (Carnevale et al., 1988); *Upgrading Basic Skills for the Workplace* (1989); and *Literacy at Work: The Workbook for Program Developers* (Philippi, 1991). There are even customized materials for particular industries such as *Strategic Skill Builders for Banking* (Mikulecky & Philippi, 1990).

Many of these guides give tips on how to relate literacy training to job tasks, thereby creating programs to provide "functional context training." Indeed, basing instructional materials for literacy training on texts that are used on the job—application forms, brochures, warning signs, manuals, memos—is now almost an axiom for designing workplace literacy programs. One major funder of such projects, the National Workplace Literacy Program of the U.S. Department of Education, recently included as part of its evaluation criteria that a proposal "demonstrates a strong relationship between skills taught and the literacy requirements of actual jobs, especially the increased skill requirements of the changing workplace" ("National Workplace Literacy Program," 1990, p. 14382).

CURRENT VIEWS REVISITED

The popular discourse of workplace literacy is persuasive to a lot of people. It has a logic: Workers lack literacy, jobs require more literacy, therefore workers are to blame for trouble at work and employers are faced with remedial training. The goals of workplace literacy appear civic-minded, even laudatory—after all, who would argue against teaching a person to read? I want now to examine this discourse more critically,

drawing on literacy theory and studies of work. As I question the popular discourse, I will not be claiming that there is no need to worry about literacy, or that there is not a problem in helping people live up to their potential, or that the nature of work and the literacies associated with it are not in some ways and some situations changing, and changing radically. However, I will be questioning the assumptions which seem to underlie popular beliefs about literacy, work, and learning. In particular, I will object to the tendency in current discussions to place too great a faith in the power of literacy and to put too little credence in people's abilities, particularly those of non-traditional and blue-collar workers. I will argue that the popular discourse of workplace literacy tends to underestimate and devalue human potential and to mis-characterize literacy as a curative for problems that literacy alone cannot solve. Such tendencies provide a questionable rationale and modus operandi for current efforts to make the American workforce literate. They also provide a smokescreen, covering up certain key societal problems by drawing our attention to other issues that, while important, are only symptomatic of a larger ill.

Rethinking the Effects of Literacy and Illiteracy

It is ironic that, at a time when the value of literacy has been rediscovered in public discourse, theorists from many disciplines are engaged in questioning the grand claims that traditionally have been made for it. There was a time when scholars talked of literacy as essential for cognitive development or as transformative in its effect on mental processes. And there's also been a tendency to put great stock in the social, economic, and political effects of literacy—UNESCO's adult literacy campaigns in developing nations being a prime example. Harvey Graff (1979, 1986) has called the tendency to associate the value of reading and writing with socioeconomic development and individual growth "the literacy myth." He has pointed out that, contrary to conventional wisdom, at many times and in many places there have been major steps forward in trade, commerce, and industry without high levels of literacy. Conversely, higher levels of literacy have, in modern times, not been the starting place for economic development. Grand claims about the consequences of literacy for intellectual growth have also been tempered by recent sociocognitive research. For example, in one of the most extensive investigations of the psychology of literacy, Scribner and Cole (1981) scaled down the usual generalizations "about the impact of literacy on history, on philosophy, and on the minds of individual human beings" to the

more modest conclusion that "literacy makes some difference to some skills in some contexts" (p. 234).[3]

These historical and sociocognitive studies of the consequences of literacy should make us question some of the facile claims found in the popular discourse of workplace literacy. They ought to make us think twice, for example, before we assume that increasing the grade level at which someone reads will automatically improve his or her performance on a literacy-related job activity (cf. Mikulecky, 1982). They ought to at least slow us down when we reason that, if only people were literate, they could all get jobs. Research on the consequences of literacy tells us that there are various complex forces that either can foster or hinder literacy's potential to bring about change. Or, as Graff (1986) concludes in his historical look at the relationship between literacy and economic and social progress, "Literacy is neither the major problem, nor is it the main solution" (p. 82). Or, in the words of Maxine Greene (1989), "The world is not crying out for more literate people to take on jobs, but for job opportunities for the literate and unlettered alike."

It is hardly credible, given the complexities of work, culture, and ideology in this country, that worker illiteracy should bear the burden of causality for a lagging economy and a failure at international competition, or that literacy should be the solution for such grave problems. According to the *World Competitiveness Report* (1989), human resources, which include education and training, is only one factor among ten which affect a country's international competitiveness. Further, various people have argued (e.g., Brint & Karabel, 1989) that claims of illiteracy and other deficiencies make workers convenient scapegoats for problems which originate in a larger arena. Suggesting that workers are erroneously blamed for the lack of competitiveness of American companies, one representative of labor (Sarmiento, 1989) offers this explanation for exaggerated illiteracy rates: "If the American public is led to believe that most American blue- or pink-collar workers don't even know how to read, then what right do they have to demand wage increases or better benefits?" (p. 9)—a provocative explanation for a national eagerness to count the millions who are illiterate.[4]

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[3]This extensive literature has been reviewed by Street (1984), Bizzell (1987), and Salvatori and Hull (1990).

[4]Most accounts of illiteracy in America begin with counts—estimates of the number of people who are, in various degrees, poor performers at reading and writing. Recent estimates vary widely: seventy-two million (U.S. Congress, House of Representatives, 1984, p. 5); sixty million (Kozol, 1985); twenty-six million (Adult Performance Level Project, 1977); seventeen million (U.S. Bureau of the Census, 1982).

As for contemporary evidence of the connection between a company's or the country's economic demise and the basic skill deficits of workers, there is not much available. Popular articles repeat stories of individual workers at specific companies who fail to read signs or perform some work-related task involving literacy and thereby make costly errors. These stories have rapidly become an unquestioned part of the popular discourse on workplace literacy, but there are alternate ways to interpret them as Charles Darrah (1990) illustrates in his ethnographic study of a computer manufacturing company where work was briefly reorganized. Previously workers with the same job title had labored together, moving around the production floor at the direction of lead workers and supervisors. Under the "Team Concept," new work groups were formed, consisting of workers with different specialties, and these groups were ostensibly given total responsibility for producing a line of computers. The reason for instituting this new form of work organization, according to management, was to decrease product quality problems, which would follow from workers' "owning" the production of the computers from start to finish. Product quality was also expected to improve when workers had a greater say in decision-making and thereby felt a greater commitment to the company's fortunes. The Team Concept failed, and when it did, the workers were seen to be at fault. These people, managers said, were deficient in oral and written communication skills. Neither could they manage themselves or "see the big picture," and they lacked certain quantitative skills that were needed to analyze production flow. Some supervisors believed the workers, many of whom were Southeast Asian immigrants, were "just not the sort of people who have these skills" (p. 15), while others said the workers needed better training. But all managers located the failure of the Team Concept in workers' shortcomings.

The view was quite different from the production floor. Darrah acknowledges that it would have been possible to find instances of workers who did not have the skills the managers mentioned. But he goes on to demonstrate that the demise of the Team Concept had little to do with workers' skills, present or absent, but, rather, it grew out of the contradictions inherent in how this concept was introduced and experienced. Workers were skeptical from the start about management's intentions, since no one had been

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As several reviewers have noted (Venezky, 1990; Sticht, 1988; Stedman & Kaestle, 1987; Hunter & Harman, 1979), such variability arises from differences in how literacy has been defined and measured. It would seem that such differences would at least be cause to examine the terms of the debate. What is it about literacy that makes so many definitions of it possible, that makes it so hard to measure once and for all?

interested in their ideas previously. They also were worried that putting everyone at the same level on a team was a not-so-subtle attempt to eliminate job ladders and hard-won status. In Darrah's words, "many workers reasoned management's goal was to create a production floor of identically qualified workers coordinated by rotating spokespersons in order to avoid paying for leadership skills" (p. 18).

In addition, workers found that many parts of the Team Concept were simply irrelevant to their work. Supervisors thought workers weren't able to take inventories in order to figure out how many computers to build in a day. The reality of the production floor, discovered Darrah, was that such planning was wasted time, for the pace of production was determined by the availability (or the lack) of parts. When a team did reach its monthly target ahead of schedule, supervisors simply ordered more parts to assemble—which was a great disincentive to the plan. Another problem was that, even though the Team Concept was supposed to open communication and encourage workers to understand the totality of production, workers felt shut out from particular kinds of information. On one occasion, a team built eleven more computer bodies than was targeted during a particular month, and the supervisor promised that the next month's workload would be reduced accordingly, but added that "you won't see it. You won't start off with 11 systems as credit" (p. 22). Worse still, workers didn't believe that they had control over work processes that mattered. They were asked to identify mistakes of people outside the floor—such as improperly specified cables or faulty work by subcontractors—but when they did so, they were a little too successful: The people at fault complained, and the feedback was stopped. According to Darrah, workers believed this was "yet another example of their inability to effect change, and of the capability of some higher status workers to remain unaccountable for their actions, while the production workers believed they were held accountable for their every mistake" (p. 23).

Research like Darrah's is as important as it is rare. We are simply not in the habit of studying workplaces from workers' perspectives, even when we want to know what skills their jobs require. Yet such perspectives can challenge the too prevalent claims that America's businesses are suffering simply because workers lack the necessary skills. There are a lot of reasons for work to go awry; workers' not having the requisite literacy is just one of them, just one factor among many which interact in complex ways. To equate economic demise with basic skills deficits is to set people off on a fool's errand. We need to be wary of such simplistic assignments of blame and simplistic formulas for recovery.

(See, for example, *America's Choice: High Wages, Low Skills!* (1990), which offers the high performance workplace as one answer to America's economic woes.)

Rethinking Workers' Potential

The popular discourse of workplace literacy sets up a we/they dichotomy. Stressing the apparent failures of large numbers of people to be competent at what are considered run-of-the-mill daily tasks has the effect of separating the literate readers of magazines, newspaper articles, and scholarly reports on the literacy crisis from the masses who, we unthinkingly assume, are barely getting through the day. As Fingeret (1983) has aptly commented, "It is difficult for us to conceptualize life without reading and writing as anything other than a limited, dull, dependent existence" (p. 133). Thus, in our current accounts of workplace literacy, we are just a step from associating poor performance on literacy tasks with being lesser and qualitatively different in ability and potential. This association has, of course, been common throughout the history of schooling in this country (Zehm, 1973; Cuban & Tyack, 1989; Fingeret, 1989; Hull, Rose, Fraser, & Castellano, in press). When children, adolescents, and young adults have done poorly at English and math, we have tended to think of them as intellectually and morally inferior and to segregate them in special classes, tracks, programs, and schools.

But when applied to workers, the stigma of illiteracy is doubly punitive, for it attaches further negative connotations to people whose abilities have already been devalued by virtue of their employment. There is a longstanding tendency in our society and even throughout history to view skeptically the abilities of people who work at physical labor (cf. Zuboff, 1988). Shaiken (1984) illustrates the recent history of this tendency in his account of skilled machinists in North America. Before the turn of the century, these accomplished workers had pivotal roles in production and considerable power on the shop floor, but lost their status with the advent of scientific management in the workplace—à la Frederick Taylor and others of a like mind. According to Shaiken, Taylor wanted to insure that "production workers [were] as interchangeable as the parts they were producing and skilled workers as limited and controlled as the technology would allow" (p. 23). The centerpiece of Taylor's approach was to monopolize knowledge in management. To justify this strategy he claimed that ordinary machinists were incapable:

> The art of cutting metals involves a true science of no small magnitude . . . so intricate that it is impossible for any machinist who is suited to running a lathe year in and year out either to understand it or to work according to its laws without the help of men who have made this their specialty. (Quoted in Shaiken, p. 24)

The effects of Taylorism are still with us, it can be argued, both in the workplace and beyond, both in terms of how work is organized and in terms of how we view workers. Such an orientation provides fertile ground on which any criticism of workers can grow like kudzu, including claims of illiteracy and its effect on productivity.

As demographics shift and workers increasingly are minorities, women, and immigrants—"groups where human resource investments have been historically deficient" (*The Bottom Line*; 1988)—the tendency to view as deficient, different, and separate those who are not or do not appear to be conventionally literate is likely to grow. However, there is also an increasing research literature which can be used to counter such tendencies. Some of this work documents the uses of literacy in non-mainstream communities and thereby helps to dispel the common myth that certain populations have no contact with or interest in print (e.g., Heath, 1983). This kind of scholarship also demonstrates that there are other literate traditions besides school-based ones, and that these promote different practices with print. Other work shows how people get along without literacy—through the use of networks of kin and friends, for example (e.g., Fingeret, 1983)—without the feelings of dependency and self-degradation that we sometimes assume are the necessary accompaniment to illiteracy. From the military have come interesting experiments, some unintentional, in which recruits whose test scores fell below the cut-off point were allowed to enter the armed forces; those recruits apparently did all right (Sticht, Armstrong, Hickey, & Caylor, 1987). Other studies have focused on the reading and writing of underprepared adults in school settings, showing the logic and history of performances that are flawed on the surface and thereby erroneously discounted (e.g., Shaughnessy, 1977; Bartholomae, 1985; Hull & Rose, 1989, 1990). Such work begins with the assumption that people can acquire whatever literacies they need, given the right circumstances. In Heath's (1986) words, "all normal individuals can learn to read and write, provided they have a setting or context in which there is a need to be literate, they are exposed to literacy, and they get some help from those who are already literate" (p. 23).

McDermott and Goldman (1987) provide a work-related example of the benefits of assuming that all people can learn to read and write, given the need and the support. They

describe their encounters with a group of New York City workers who needed to pass a licensing exam. These ninety men were pest exterminators for the city's public housing units, and half of the group had only a conditional license. This meant lessened job security, lower pay, and zero access to promotions and extra jobs. To be licensed these men had to pass what amounted to a literacy test using job-related materials and a test of factual knowledge of exterminating. The word on the tests was that they were tough. In fact, some men had been on the job for twenty-five years without even attempting the licensing exam, and others had been thwarted by not being able to fill out complex preliminary forms.

"The specter of failure loomed," say McDermott and Goldman, "where it did not need to exist" (p. 6), and they describe how McDermott and David Harman set about organizing an instructional program and designing it for success rather than failure. They began with the assumption that "all the men knew more than they needed to know for passing the test, and that we had only to tame their knowledge into a form that would enable them to take and pass the test" (p. 6). They arranged peer teaching situations by pairing a group of ten students with two exterminator/instructors who had already passed the exam, and they also relied on the union's promise to provide whatever instruction was needed until everybody passed. McDermott and Goldman report that most men passed the test on their first try, and all passed the second time around. "A tremendous spirit and confidence grew among both students and teachers," they say, "and the union went to its next bargaining table with the claim that they were all licensed professionals" (p. 6). McDermott and Goldman also raise some questions worth considering: "Why is it that school degrees and literacy tests are the measures of our workers? Whatever happened to job performance?" (p. 5).

When we do look at job performance, when we pay close attention to how people accomplish work, we come away with quite different views of both workers' abilities and the jobs they perform. There is a relevant research tradition growing out of an interest in and respect for everyday phenomena which attempts to understand and study knowledge and skill in work (cf. Rogoff & Lave, 1984). Instead of assuming that poor performance in school subjects necessarily dictates poor performance on related tasks at work, researchers have used various strategies—participant observation, interviews, simulations, and situated experiments—to investigate actual work practices (Lave, 1986). What this kind of research has tended to show is that people carry out much more complex work

practices than we generally would expect on the basis of traditional testing instruments and conventional assumptions about the relationship between school-learning and work-learning.

Kusterer (1978), for example, studied the knowledge that workers acquire and use in jobs pejoratively labelled "unskilled." According to Kusterer,

> Today's "unskilled" workers must acquire a substantial body of knowledge to survive and succeed on their jobs—despite mechanization and automation, despite bureaucratization and the ever narrower division of labor, and despite Taylorist industrial engineering. This working knowledge is indispensable to the production process, yet it is informally learned and generally unrecognized by anyone outside the workplace. (p. iii)

Kusterer documented the working knowledge acquired by machine operators in the cone department of a paper container factory and by tellers in a branch bank. He illustrated, for example, how operators did not just master the procedures for starting and stopping the machines, cleaning them properly, packing the cones, and labelling their cases—routine components of the job that were officially acknowledged—these workers also had to acquire the know-how necessary to accomplish work when obstacles arose that interrupted habitualized routine. Such obstacles included "how to keep the machine running, overcome 'bad' paper, diagnose the cause of defects, keep the inspectors happy, [and] secure the cooperation of mechanics and material handlers" (p. 45). Kusterer points out that we usually recognize the basic knowledge necessary to do even highly routinized work, but we are much less cognizant of how much supplementary knowledge is also necessary—knowledge, I would add, which belies the common perception of much blue-collar work as unskilled and routinized and workers as deficient, incapable, and passive.

Research such as Kusterer's valorizes the abilities and potential of human workers, and rightly so. So do the later, related studies by Wellman (1986) on the "etiquette" of longshoring, by Wenger (1991) on the "communities of practice" constructed by claims adjustors at an insurance agency, and by Scribner (1985, 1987) and her colleague (Jacob, 1986) on the knowledge and skills of workers at a dairy. The promise of this kind of research is that it will bring to light the literate events—the situated writing, reading, talking, and reasoning activities—which characterize the work that people do in particular job and job-training settings, and that it will cast workers in a different light, one that gives their expertise its due.

Rethinking the Nature of Literacy

The popular discourse of workplace literacy centers on the skills that people lack, sometimes "basic" literacy skills and sometimes "higher order" thinking skills. These skills that workers need but do not possess are sometimes determined by experts on blue-ribbon panels (e.g., the Department of Labor's SCANS Commission—the Secretary's Commission on Achieving Necessary Skills), and they are sometimes based on opinion surveys of employers and round table discussions of business executives and educational experts (e.g., Carnevale et al., 1988). But startlingly, as Darrah (1991) points out, such judgments are almost never informed by observations of work, particularly observations which incorporate the understandings of workers. Instead, skills are listed as abstract competencies and represented as context-free and universal. At best, the skill lists are skimpily customized—for instance, a job requires that a worker "signs forms appropriately," "uses listening skills to identify procedures to follow," or "speaks face to face coherently" (Hull & Sechler, 1987, p. vii).

I am sympathetic to the impulse to understand the knowledge and skills needed in particular jobs. But an uncritical acceptance of the skill metaphor can lead to problems in how we conceptualize literacy and literacy instruction. Bundled with the notion of skills are notions of generality and neutral technique. We think of reading or writing as generic, the intellectual equivalent of all-purpose flour, and we believe that, once mastered, these skills can and will be used in any context for any purpose. This view of literacy underlies a great deal of research and teaching, but of late it has begun to be challenged (cf. Street, 1984; de Castell, Luke, & MacLennan, 1986; de Castell & Luke, 1989). The questioning generally focuses on the ways in which it seems erroneous to think of literacy as a unitary phenomenon. On one level, this could simply mean that literacy might be viewed as a set of skills rather than one skill—that a person can perform differently at reading or writing in different situations, that a person will read well, for example, when the material is job-related but less well when it's unconnected to what he or she knows, a point that Sticht makes in his research on the reading performance of military recruits (e.g., Sticht, Fox, Hauke, & Zapf, 1976), and that Diehl and Mikulecky (1980) refer to in their work on occupation-specific literacy.

A related implication is that, not only will the literacy performances of individuals differ on various tasks, but the uses that people in different communities find for reading

and writing will vary too, as Heath (1983) demonstrates in her research on the uses of literacy among non-mainstream communities in the American South. In a later work, she described literacy as having "different meanings for members of different groups, with a corresponding variety of acquisition modes, functions, and uses" (1986, p. 25). A visible instance of these differences occurs among biliterate populations, in which people have a choice of languages in which to speak or write—English and Spanish, for example, or English and Hmong—and choose one or the other based on the social meanings associated with their uses.[5]

But there are other implications of viewing literacy as a multiple construct which offer a different, more sobering critique of the skills metaphor. Consider the following commentary about "what is suppressed in the language of skills":

> Skill in our taken-for-granted sense of the word is something real, an objective set of requirements, an obvious necessity: what's needed to ride a bicycle, for example. It is a technical issue pure and simple. However, what is forgotten when we think about skills this way is that skills are always defined with reference to some socially defined version of what constitutes competence. (Simon, 1983, p. 243)

Simon reminds us that particular activities, characteristics, and performances are labelled "skills," depending on which activities, characteristics, and performances are believed to accomplish particular purposes, to serve certain ends, or to promote special interests—usually the purposes, ends, and interests of those in the position to make such judgments. "Listening" in order to "identify procedures to follow" is a valued skill because employers want workers who will follow directions. "Sign[ing] forms appropriately" is a valued skill because supervisors need to keep records and to hold workers accountable. Conversely, Darrah (1991) discovered in his ethnographic study of a wire and cable company that there are skills that supervisors don't acknowledge but workers recognize and develop—such as learning to represent their decisions in such a way as to "establish their plausibility should they later be challenged" (p. 21; cf. Wenger, 1991). "The concept of skill," Simon (1983)

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[5]Reder (1987) gives examples of "social meanings" determining language choice: "The decision to use Spanish for writing comments on the blackboard during a senior citizens' committee meeting, when all members of the committee were biliterate although not all were Hispanic, could be interpreted as making a social statement about the origin and character of the organization. . . . A Mexican mother who leaves notes in English for her literate children is making a choice based on social meaning associated with Spanish and English uses" (p. 262).

argues, "is not just a technical question but is also a question of power and interest" (p. 243).

Here, for example, is a list of basic skills taught in a particular workplace literacy program, one sponsored by the R. J. Reynolds Tobacco Company (Fields, Hull, & Sechler, 1987). This was a program in which workers could choose to enroll after taking a mandatory reading test administered to all employees who were interested in transferring to a new plant containing "high-tech" equipment:

- Sound-letter relationships
- Number of syllables
- Compound words
- Contradictions [sic]
- Endings
- Word recognition
- Listening and writing skills
- Reading comprehension
- Reading of advertisements
- Filling-in of applications (p. 23)

At first glance, this reading instruction seems as neutral as can be, the epitome of what people think of when they hear "basic skills." We might remember, though, that reading requires a text, and texts are about something. In this case, the texts were workbooks containing "stories often related to job issues, such as "How do I get along with others at work?" (p. 23). We might also take note of the kinds of literacy skills that were and were not available to students as part of this program: For example, phonics instruction is there, but an attention to critical reading—the practice of debating the truth or value of texts—apparently is not (cf. D. P. Resnick, 1990). We might also recall that this reading program was voluntary, yet workers were motivated to enroll in it by virtue of their low scores on a mandated reading test. Here is one student's anxious response to this context: "I don't know why I'm here. They have the reading test, and I made 57. You've got to have 60 to pass" (Fields et al., 1987, p. 22). All of these features—the materials, the literacy practices, the context for the program—make learning to read and write at R. J. Reynolds (and anywhere else) value-laden and ideological.

Here is another example. The *Los Angeles Times* (Richards, 1990) recently reported the relocation of a large part of one California-based technology firm to Bangkok. The chairman of the company reported that there he had access to cheap labor—Thai women who are "conscientious and compliant." "In Thailand," he said, "there is a lot of close work under microscopes" whereas "it is pretty tough to find people in the U.S. to do that kind of work" (p. D3). So his most highly paid and educated employees—about one-fourth of the company—stayed in the United States, while he looked to Asia for the low-cost portion of his workforce. The women in the Bangkok factory speak only Thai (no mention is made of whether they read and write it), as do most of the native born managers. It seems, then, that being able to converse or write in English is not crucial for most of these workers. Nonetheless, the company provides ESL instruction, during which the young women also acquire, according to an account oblivious to stereotyping, "a sense of urgency," being "asked to set aside a typically gentle, easy-going nature that would rather avoid than confront a problem" (p. D3).

This is an eye-opening case: A high-tech firm moves to another country to employ women at tedious, nimble-fingered tasks which apparently require little English literacy, yet provides its new workers with ESL instruction for purposes of socialization. We cannot really tell from the newspaper account what skills were required for work in the Bangkok factory—indeed, one of the points of this paper is that we need to examine workplaces to understand the literate capabilities and working knowledge that are constructed in "communities of practice" (Wenger, 1991), rather than beginning with the assumption that literacy is crucial or superfluous. What the newspaper story does illustrate more certainly is that literacy is not a neutral skill—literacy training means socialization as well as language instruction. We would do well to consider how learning to read and write involves more than acquiring decontextualized decoding, comprehension, and production skills. Indeed, some would label such a characterization as patently false, insisting that literacy can more appropriately be described as "literacies," as sets of socially constructed practices based upon symbol systems and organized around beliefs about how the skills of reading and writing might be or should be used (Street, 1984; Cook-Gumperz, 1986; Levine, 1986; Lankshear & Lawler, 1987). If literacy is a social practice, reflecting and promoting certain beliefs, values, and processes, the potential exists for some conceptions of literacy to promote more expansive practices and for others to promote more limited or limiting ones. In other words, literacy "skills" are valued because of particular socially

defined versions of literate competence, and those definitions can promote more or less limiting notions of literacy.

In speaking of efforts to create a literate workforce, what are the consequences of acting as if literacy is a neutral technology and not a social practice? One consequence is that we will be less likely to notice when more limiting literacy practices are promoted over more expansive ones and, thereby, will be more likely to be short-changed. Another consequence is that we might not be sufficiently aware of the ideologies that are promoted as part and parcel of the literacy training and, thereby, we might teach and learn values that do not serve our students well. We need to be wary of talk about literacy which strips it of multiplicity and ideology. Teaching "basic" reading skills and "basic" writing skills never means just teaching abstract mental processes. It involves, as well, teaching appropriate uses of reading and writing and inculcating particular values about texts, schooling, and work. The trouble with "basic skills" in the popular discourse of workplace literacy is that the use of this term tends to obscure the value-laden nature of literacy learning. Nonetheless, these skills will be learned in a practice-specific way and will be governed by particular social meanings.

Rethinking the Literacy Requirements of Work and the Nature of Work-Related Training

There is much worry, recently, that with the changing nature of work—the shift toward high-technology manufacturing and service-oriented industries—comes changing literacy requirements—both "basic" literacy skills and "advanced" or "higher" literacy skills for workers previously termed "blue-collar" (Sum, Harrington, & Goedicke, 1986). There is, of course, some disagreement over just how quickly work is changing and whether such changes will indeed result in jobs which require different, additional, or more complex skills (e.g., Levin & Rumberger, 1983; Bailey, 1990; Barton & Kirsch, 1990). But the qualifications that are sometimes present in research literature rarely make their way into the popular discourse on workplace literacy. Instead, we imagine the worst—in the calming words of one commentator, "it's like Pearl Harbor"—and we rush to set up remedial literacy programs and to institute job training even as we doubt that workers are sufficiently able and motivated to participate. The descriptions of recent workplace literacy projects that I have seen—I have examined descriptions of and proposals for approximately

sixty of them—regularly take as a given that literacy is a requirement for everything and anticipate benefits from a literacy program both for the worker and the company that are numerous and wide-ranging such as productivity, promotions, accuracy, on-time delivery, self-esteem, and job retention. There are almost no attempts at qualifying this rhetoric. How might we complicate such Johnny-one-note thinking about the requirements and benefits of literacy and work?

We might, for starters, keep in mind such stories as the California high-tech firm and its relocation to Thailand—a move, not to seek out a more literate population, but to take advantage of a cheaper one (whether it was literate or not). There are many similar instances—there have been for some time—and with current efforts to enact a "free trade" agreement with Mexico, there are likely to be many more. We need to listen with a skeptical ear when blanket pronouncements are made about literacy and its relations to work—when we are told, for example, that high-tech employment necessarily means increased demands for literacy, that foreign workers are illiterate and therefore only too happy to work for peanuts, or that most workers in industries that are non-information based lack literate competence. We should be skeptical, not in order to deny literacy instruction to anyone, but to appraise more realistically what literacy can offer and to assess what else we need to be concerned about if our sights are set on improving the conditions as well as the products of work.

Scribner (1985, 1987) and another colleague (Jacob, 1986) studied a dairy which employs about three hundred people who process, package, and distribute milk and milk-related products. Some workers at this facility make gallon containers out of plastic pellets; others fill containers with milk and other liquids; others assemble orders from a warehouse; and others are drivers. One might not expect much reading and writing in the dairy, except perhaps for the paperwork in the office. Yet Scribner (1987) calls the dairy "a literacy-saturated environment" (p. 3) and this despite the fact that communication with management was mainly by word-of-mouth. She writes,

> as soon as we attempted to inventory the symbolic material in the plant, we found the task impossible to accomplish; an exhaustive listing eluded us. In all departments and on all jobs including the most unskilled, some symbol manipulation seemed to be required: the packaging machine operator needed to read machine-tallied totals; the lift-fork operator in the warehouse needed to distinguish similarly packaged goods from one another by accurate interpretation of words and symbols on the cartons. Endless examples come to mind. (p. 3)

Not only were certain literacy practices taken-for-granted and expected aspects of official daily routine, workers also used literacy on their own to help structure or simplify their jobs. Some drivers, for example, charted the prices of their standing orders in elaborate detail, and other workers modified standard forms and charts to make them more usable and accessible—activities reminiscent of Kusterer's (1978) "working knowledge." Nor were there dramatic differences between the literacy activities of blue-collar and white-collar workers. In the main, both groups "processed" the same forms, though for different purposes, and all of the literacy practices "required background knowledge of the business and its production processes which could only be acquired on the job" (p. 4). Scribner and colleagues found no sign that employees were unable to do their work because of inadequate literacy skills.

Here, then, is an instance of a job requiring more literacy—and workers demonstrating more competency—than one might expect given the popular discourse. But let us take a different example to force the issue, one where, unlike the situation in the dairy, work is undergoing rapid and radical technological change and workers' skills are being challenged. Here we will see that work in such contexts certainly does require new and different literate capabilities, but in order to facilitate the introduction of such technological changes, we will need to think of these new capabilities not as isolate intellectual skills, but as constructed practices which draw their meaning from social components of work and communities of workers.

Zuboff (1988) has studied, among other industries, several pulp and paper mills, where experienced workers are trying to make the transition from older craft know-how to computer-based knowledge. Instead of walking about the vats and rollers, judging and controlling the conditions of production by touching the pulp, smelling the chemicals, and manually adjusting the levers of machines—relying, that is, on what Zuboff calls "sentient involvement" (p. 60)—workers are now sequestered in glass booths and their work mediated by algorithms and digital symbols, a computer-interface, and reams of data. Here is how one worker expressed the sense of displacement he felt as a result of this change in his job:

> With computerization I am further away from my job than I have ever been before. I used to listen to the sounds the boiler makes and know just how it was running. I could look at the fire in the furnace and tell by its color how it was burning. I knew what kinds of adjustments were needed by the shades of color I saw. A lot of the men also said that there were smells that

> told you different things about how it was running. I feel uncomfortable being away from these sights and smells. Now I only have numbers to go by. I am scared of that boiler, and I feel that I should be closer to it in order to control it. (p. 63)

Zuboff (1988) reports that, faced with retraining, some workers simply quit, fearing they couldn't cope with the new requirements, while others struggled, and still others seemed to adapt more readily to new job demands. While creating sympathetic and moving portraits of the disturbing impact of the new technology on some workers and how they experienced their jobs, she goes on to argue that new technology need not merely signal the diminished importance of sentient skills, but can offer an opportunity for reskilling, where competence is defined in terms of what she calls "intellective skills" (p. 77). Understanding those new skills, and also how they relate to existing sentient knowledge, is the project recently undertaken by Scribner and colleagues (Martin & Scribner, 1988; Martin & Beach, 1990), who are studying machinists' use of new Computer Numerical Control (CNC) technology.

Zuboff's (1988) research is a riveting example of how some jobs are changing because of new technologies and how some workers will, as a result, be faced with losing those jobs or retooling by acquiring what we might think of as new literacies. To be sure, finding the best means we can to ease the way for workers in such situations is a worthy goal. I believe it is a mistake, though, as we try to understand what skills are needed, to focus all our attention on technology per se, to assume that once we understand Zuboff's intellective skills—those capabilities involved in information-based knowledge—that we are home safe. When we think of a worker in front of a computer, we do tend to focus on the individual abilities that a person needs in order to interact with a program. Wenger (1991) points out, however, that if we view intellective skills only as individual abilities, we will overlook important social components in work such as membership in work-based communities through which particular work practices are generated and sustained.

Wenger (1991) studied the claims processing center of a large insurance company where workers, mostly women, received claims by mail, "processed" them—determining whether and for what amount a claimant's policy would cover specific medical costs—and entered them into a computer system. He found that there are crucial differences between the institutional setting that an employer provides and the communal setting that workers themselves construct, and he assigns great importance to the latter: "The practice of a community is where the official meets the non-official, where the visible rests on the

invisible, where the canonical is negotiated with the non-canonical" (p. 181). If the objectives of the institution are somehow at cross purposes with the ways of functioning that are developed in these communities of practice—as was often the case in this insurance company—serious problems occur. For example, Wenger noted an aggravating mismatch between how workers were evaluated and the work their jobs required. Although workers needed to spend time and energy answering telephone calls from irate, puzzled, or misinformed claimants—and this service was a necessary interface with customers—the company evaluated the claims processors only on the basis of their speed and accuracy in production. Such mismatches between community practice and institutional demands resulted in what Wenger called "identities of non-participation" (p. 182). That is, workers thought of themselves as only peripherally involved in the meaning of their work, and this disengagement seriously limited the success of the business.

Wenger's research alerts us that difficulties will arise when competencies and tools are defined and developed in isolation from workers' communities of practice, and this holds as much for Zuboff's mill workers as for the insurance adjusters. As we imagine the training and literacy programs that will greet technological transformations in the workplace, we might question whether the intellective skills we teach are in any way anchored in the practice of the workplace community, and if they are not, what difference our instruction will make. This is simply another reminder that—contrary to the popular discourse—neither all the problems nor all solutions will reside in illiteracy and literacy. Management and workers have a history, and that history is not all wine and roses by anyone's accounting. Among others, Shaiken (1984) argues that the history of machine automation has been the history of deliberate deskilling—the effort to reduce reliance on workers' knowledge and thereby to eliminate workers' control. Thus, rather than welcoming advanced technology with open arms, Shaiken wants to see its development proceed in what he views as more socially responsible ways—creating or maintaining jobs and improving the conditions of work.

In like manner, we might be vigilant against uses of literacy in the workplace that are socially irresponsible. Increasingly, businesses and corporations are beginning to employ literacy-related tests and assessment instruments to determine whether workers are qualified for hiring and promotions (see Fields et al., 1987, for examples of such practices); to certify workers (as with the exterminators' exam); and to determine whether they are proficient at the skills their current or future jobs require (*The Bottom Line*, 1988,

gives directions for constructing a "literacy audit" or test of workers' reading, writing, math, and reasoning skills). These tests and assessment devices may be administered with good intentions—literacy audits, for example, are supposed to result in a customized curriculum. There are several issues worth worrying about, however. Although the courts have ruled that literacy cannot legally be used as a screening device unless the literacy skills required on the test reflect actual job demands (e.g., *Griggs vs. Duke Power Company*), such tests may still eliminate qualified job-seekers through literacy-related demands that do not reflect job performance. Others fear a more deliberate discriminatory use of literacy tests and audits (cf. Carnevale et al., 1988). "I am concerned that workplace literacy programs will be used to admit a few and eliminate many," writes Raul Añorve (1989, p. 40), a workplace literacy specialist. Añorve goes on to predict that high-tech positions may be used as excuses to get rid of employees with low reading skills, and he also worries that new communication criteria such as accentless speech will be used to discriminate against immigrants. For similar reasons, the AFL-CIO's *Union Guide to Workplace Literacy* (Sarmiento & Kay, 1990) looks on the use of literacy audits in the workplace as potentially abusive, a too-handy rationale for management to justify decisions which jeopardize workers' earnings and even their jobs.

Understanding the literacy requirements of work is not, then, a cut and dried, feast or famine issue. Some jobs that are coupled with new technologies may not require much literacy at all (which is not to say they do not require considerable working knowledge); other, more traditional occupations may involve surprisingly frequent literacy-related activities; and radically altered jobs may require radically altered literate capabilities, yet the development and exercise of those capabilities will depend on more than literacy alone. Similarly, the complexity that characterizes literacy, literacy learning, and the literacy requirements of work ought to spill over into our conceptions of workplace or work-related literacy programs. It would be needlessly simple-minded to assume, for example, that in order to design a workplace program, one need only collect representative texts used at work and then teach to those documents (one variant of the "functional context approach"); or that whatever is learned in a literacy program will translate directly to promotions or productivity; or even that work-related literacy is something that all workers want to acquire.

Gowen (1990) studied the resistance of a group of African American hospital workers to a "functional context" literacy curriculum. Trying to tie literacy instruction to

job content, the instructors developed a series of lessons based on the memos one supervisor regularly sent his housekeeping staff. These memos were called "Weekly Tips," and the supervisor thought they were important, but he suspected that employees did not read them. The Tips covered such topics as "Dust Mopping, Daily Vacuuming, Damp Mopping of Corridors and Open Areas, Damp Mopping of Patients' Rooms, and Spray Buffing Corridors" (p. 253). The lessons the literacy instructors devised on the basis of this material asked students to discuss, read, and write about the information in the Weekly Tips. For example, students were to read a Weekly Tip and then answer questions about the topic such as the steps needed to dust mop, the equipment needed for vacuuming, and so on.

Gowen found that the employees disliked this instruction. For one thing, they felt they knew a lot more about cleaning than did their supervisors, and they developed "tricks"—Kusterer (1978) would call this "supplementary working knowledge"—to get the job done efficiently. One worker commented, "I've been at King Memorial for 23 years, and I feel like if I don't know how to clean now, I will not learn. . . . That's not going to help me get my GED I don't think" (Gowen, 1990, p. 261). And another explained in an evaluation of the curriculum: "I didn't like rewriting things concerning mopping, cleaning, and dish washing. I felt I already knowed that" (p. 262). Gowen believes these workers reacted to the functional context curriculum by resisting: They stopped coming to class, they finished the work as quickly as possible, or they lost their packet of "Weekly Tips." When the Weekly Tips assignments ended, all were relieved. Said one student, "So we off that Weekly Tips junk? I don't want to know nothing about no mopping and dusting" (p. 260).

The point of this example is not to argue against work-related literacy projects, but to speak in favor of a serious rethinking of the nature of the instruction we imagine for workers. As we rush headlong to design curricula and programs and to measure reading rates and writing quality, we pay precious little attention to how people experience curricula and programs and for what purposes they choose and need to engage in reading and writing. We steer our ships instead by what corporate and government leaders think they want in a workforce and by our own enculturated notions of what teaching is about, even when our students are adults rather than children. Schooling is a bad memory for many adults who are poor performers at literacy, and workplace instruction which is school-based—which relies upon similar participant structures, materials, and assessment

techniques—will likely be off-putting by association. I am dismayed, then, to see how frequently proposals for and descriptions of workplace literacy programs rely upon school-based notions of teaching and learning. Categories for instruction tend to follow traditional models: ESL, basic skills, GED preparation, or commercially available computer-based programs. Basic skills instruction may be dressed up with occupationally specific materials—hotel workers might practice reading with menus, for example—but the format for this instruction is a teacher in front of a classroom of students with workbooks and readers. Perhaps this approach grows out of the commonplace deficit thinking concerning workers' abilities described earlier. If adult workers lack the literate competencies that we expect children to acquire, then the temptation is to imagine for workers the same instructional practices believed to be appropriate for children.

This is a good time to recall Reder's (1987) research on the comparative aspects of literacy development in three American communities—an Eskimo fishing village, a community of Hmong immigrants, and a partially migrant, partially settled Hispanic community. In these communities, Reder found that adults often acquired literacy spontaneously, without participating in formal literacy education classes, in response to the perceived needs they had for literacy in their lives. They acquired literacy because they needed to, and they did so in collaboration with others. Reder points out that individuals participated in collaborative literacy practices in a variety of ways. Some were technically proficient; that is, they could use the technology of writing—they knew how to write a formal letter, for example. Others were functionally engaged, helping to perform the task by providing specialized knowledge and expertise; this person might understand the purpose of a letter to the editor. Others were socially adept; that is, they had knowledge about the nature of the literacy practice and its implications for community life such as historical knowledge, which could provide background information for the letter, or support of the village elders, which could certify its appropriate use.

Such findings have interesting implications for rethinking traditional conceptions of adult literacy instruction in the workplace. Like Lauren Resnick (1990), Reder (1987) proposes an "apprenticeship" model for literacy learning:

> Participant structures that provide opportunities for individuals to be functionally engaged in the practice before they have the requisite technological knowledge and skills may be a very successful means of socializing functional knowledge and knowledge of social meanings essential to accomplishment of the practice, stimulating individuals'

> acquisition of literacy even as they may be just learning basic technological skills. (p. 267)

Applied to workplace literacy, we might imagine, instead of or in addition to pull-out programs in which workers are sequestered in classrooms, apprenticeship arrangements whereby workers who need to carry out a task involving complex literacy skills learn on the job with someone who can already perform that task and, in this way, acquire the requisite technological, functional, and social knowledge. It may be that if we study the workplace to see how literacy learning occurs "naturally," in the absence of formal instruction provided through literacy programs, we may see something similar to this kind of mentoring. We might also find distributed literacy knowledge, where workers typically carry out certain tasks which involve literacy in collaboration with each other. The point I am making is that, rather than assuming that structures and practices for learning literacy must be imported from school-based models of teaching and learning, we might do well to study workplaces and communities to see what kinds of indigenous structures and practices might be supported and built upon. What we learn may enrich our school-based versions of literacy and instruction as well.

DIFFERENT VOICES AND OTHER STORIES

At the time I knew Alma and Jackie, the students whose comments on literacy at work provide the headnote for this paper, they were both enrolled in a short-term vocational program on banking and finance in a community college.[6] Both of these African American women said that they needed and wanted to work and that they longed to get off public assistance. They dreamed of professional, white-collar jobs in banks—according to Jackie, a job where it is not hot and people aren't always yelling at you the way they do at McDonald's. Before she enrolled in the banking program, Jackie had been out of high school only two years and had held several short-term jobs in addition to working at McDonald's: She had been an aspiring rapper, a janitor at an army base, and a food helper at a park and recreation facility. Alma, on the other hand, was in her forties; she had grown up in Arkansas, raised several children, and had worked only at a convalescent home and as a teacher's aide. I don't think either of these women thought of

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[6]The stories of Alma and Jackie come from an ethnographic study reported in Hull (1991).

themselves as having a literacy problem, but, rather, as the headnote suggests, they expected to do reading, writing, and calculation at their future bank jobs as a matter of course. I do think, though, that they would be *viewed* as having a literacy problem, particularly Alma, who had been out of work and away from school for so long.

Both women said they expected to do well in the banking and finance program and at work. "All you have to do is try," said Jackie. "I think I can master it, whatever it is," said Alma. And both did well in the program, coming to class regularly, participating in the "simulated" bank-telling exercises, practicing the ten-key adding machine, and taking their turn at doing proofs—feeding debit and credit slips through a machine the size and shape of a refrigerator lying on its side. Two months into the semester representatives of a local bank came to test students' ten-key skills, administer a timed written exam, and carry out interviews. Jackie did just fine and was hired right away, but Alma failed the written exam, which consisted of visual discriminations and problem-solving.

The instructor got a copy of the test and asked me to practice with those who, like Alma, had not passed it. Students were amazed at the trickiness of the questions—the "matching" portion which asked you to discriminate quickly between items in two lists like "J. T. Addonis" and "J. T. Adonnis." The most troublesome part, however, and one students invariably fell down on, required the interpretation of a rather complicated visual display of deposit slips and checks as well as the selection of answers from a multiple choice list of the "A but not B" or "A and B but not C" variety—and all this under timed conditions. To the relief of everyone, Alma passed the test on her second try, though she confided in me that she had memorized the answers to the problem-solving portion during our practice sessions and then simply filled them in during the test rather than working the problems.

Jackie and Alma were hired part-time at $6.10 an hour at the same proof-operation center. This center takes up an entire floor of a large bank building and is filled with proof machines—a hundred or so are going at the same time when work is in full-swing—most of them operated by women of color. Workers arrive at 4 p.m. and continue until all their bundles are "proved," which is around 11 p.m. except for the busiest day, Friday, when work sometimes continues until after midnight. Jackie worked at this proof-operation center for two months, until she was late three times, the third time for three minutes, and was asked to resign. She blamed her lateness on transportation problems; she had to drop

her baby off at a distant, low-cost childcare center, she said, and then take the bus back to the subway stop, and sometimes the trains came every five minutes, and sometimes every fifteen. Jackie claimed, though, that she liked working at the proof center: "I would have stayed. . . . I liked the environment and everything . . . you have to even have a card just to get on the elevator." And she believed that if she could have held on to this job, and if her hours had been increased, she could have made enough money to support herself: "We was only working like six and four hours. If . . . I would have been working eight hours or something, I really could have bought food and everything, bought a car and everything. But it was enough. It would have been enough."

Being late was not a problem for Alma, but being left-handed was. To make production in the proof-operation center, workers have to process twelve-hundred items an hour—that is, they have to feed twelve-hundred credit and debit slips into a machine with one hand and enter calculations on a ten-key pad with the other. The machines all have the keypad on the right, so if you are left-handed you are up a creek without a paddle. When I talked to Alma a few months after she lost her job, she said she felt good about having worked at the bank. "I was doing the work," she said. "I had no problem opening the machine and closing the machine. I was doing that work." She was adamant, though, about the lack of relationship between the test she had failed and the job she had performed. Right now, both Alma and Jackie are at home taking care of their children. They are presently on assistance, but they both look forward to getting another bank job. The vocational program in banking and finance is thriving, and so for that matter, is the bank. The program had thirty new students last semester, some of whom will be offered the jobs that Jackie, Alma, and others have vacated.

Certainly there are skills that Jackie and Alma have not acquired; perhaps they even could have benefitted from a workplace literacy program. But there are many other complex factors in their situations which push literacy from a central concern to the periphery. These factors include short-term, narrowly focused vocational training; the lack of childcare at work; part-time employment with no benefits; workplaces where employees have few rights, stressful tasks, and low pay; and workplaces where women of color inherit the most tedious jobs an industry can offer. To blame the problem on illiteracy in this instance, and I believe in many others, is simply to miss the mark.

We need to look from other perspectives, to hear other voices and the different stories they can tell. Many people from a variety of disciplines and perspectives are beginning to talk these days about honoring difference. Part of the impetus for these conversations comes simply from the increasing diversity of our country, where different cultures, languages, and orientations by virtue of their numbers and presence are forcing a recognition of America's plurality. Part of it comes from educators who are pressed daily to find ways to teach in classrooms that are nothing if not richly diverse. Part of it comes, too, from a sense among many in academic communities that times are changing intellectually, that a "post-modern" age is now upon us, an age in which there is no widespread belief in a common rationality or a shared knowledge, but, rather, a growing conception of the world as "continuously changing, irreducibly various, and multiply configurable" (Greene, 1989).

In this age of difference, diversity, and "otherness," we are lost if we do not learn to admit other views, to hear other voices, other stories. This means, for those workers whose situations have been represented univocally in the popular discourse of workplace illiteracy, looking anew at training programs and workplaces, not simply by measuring reading rates, collecting work-based literacy materials, or charting productivity—the customary focuses of much previous research and even teaching (cf. Sticht, 1988; Grubb, Kalman, Castellano, Brown, & Bradby, 1991). We need, rather, to seek out the personal stories of workers like Jackie and Alma; to learn what it is like to take part in a vocational program or a literacy class and what effect such an experience has, really, on work and living; and to look with a critical eye at how work gets accomplished and the roles of literacy within work. We need to ask continually with Maxine Greene (1989), "How much, after all, depends on literacy itself?" What else must we be concerned with, in addition to literacy, if we want to improve the conditions and products of work?

In the popular discourse of workplace literacy, we seem to tell just a few stories. We are able to tell sad tales of people who live impoverished lives and cause others to suffer because they don't know how to read and write. Or we are able to tell happy, Horatio Alger-type stories of people who prosper and contribute to the common good because they have persevered and become literate. We have our dominant myths, our story grammars if you will, of success and work, and these are hard to break free of. Other stories, with their alternate viewpoints, different voices, and other realities, can help us amend, qualify, and fundamentally challenge the popular discourse of literacy and work.

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